



SEQUENCE LISTING

<110> Visible Genetics Inc.
Shipman, Robert

<120> Method and Kit for the Characterization of
Antibiotic-Resistance Mutations in Mycobacterium
tuberculosis

<130> VGEN.P-055-WO

<140>

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<150> 60/111,794

<151> 1998-12-11

<160> 50

<170> PatentIn Ver. 2.1

<210> 1

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> rpoB-F amplification primer

<400> 1

tacggtcggc gagtgatcc

20

<210> 2

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> rpoB-R amplification primer

<400> 2

tacggcggtt cgaatgaaccc

20

<210> 3
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> rpoB-5s sequencing primer

<400> 3
tacggtcggc gagctgatcc 20

<210> 4
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> rpoB-3s sequencing primer

<400> 4
tacggcggtt cgatgaacct 20

<210> 5
<211> 480
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> rpoB (rifampin resistance)

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aaaaccagat ccgggtcggc atgtcgcgga tggagcgggt ggtccgggag cggatgacca 120
cccaggacgt ggaggcgatc acaccgcaga cgttgatcaa catccggccg gtggtcgccg 180
cgatcaagga gttcttcggc accagccagc tgagccaatt catggaccag aacaaccgc 240
tgtcgggggt gaccacaag cgccgactgt cggcgctggg gcccgggcgt ctgtcacgtg 300
agcgtgccgg gctggaggtc cgcgacgtgc acccgtcgca ctacggccgg atgtgccga 360
tcgaaacccc tgaggggccc aacatcggtc tgatcggctc gctgtcgggtg tacgcgcggg 420
tcaaccggtt cgggttcacg gaaacgccgt accgcaaggt ggtcgacggc gtggttagcg 480

<210> 6
<211> 20

<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> katG-F amplification primer

<400> 6
atggggctga tctacgtgaa 20

<210> 7
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> katG-R amplification primer

<400> 7
ggtgttcag ccagcgacgc 20

<210> 8
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> katG-5s sequencing primer

<400> 8
atggggctga tctacgtgaa 20

<210> 9
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> katG-3s sequencing primer

<400> 9
ggtgttcag ccagcgacgc 20

<210> 10
<211> 660
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> katG (isoniazid resistance)

<400> 10
gctcggcgcg gacggttaca gcggttaagcg ggatctggag aaccgctgg ccgcggtgca 60
gatggggctg atctacgtga acccgagggg gccgaacggc aaccggacc ccatggccgc 120
ggcggtcgac attcgcgaga cgttcggcg catggccatg aacgacgtcg aaacagcggc 180
gctgatcgtc ggcggtcaca ctttcggtaa gacctatggc gccggcccgg ccgatctggt 240
cggccccgaa cccgaggctg ctccgctgga gcagatgggc ttgggctgga agagctcgta 300
tggcaccgga accggttaagg acgcgatcac cagcggcatc gaggtcgtat ggacgaacac 360
cccgcagaaa tgggacaaca gtttcctcga gatcctgtac ggctacgagt gggagctgac 420
gaagagccct gctggcgctt ggcaatacac cgccaaggac ggcgccggtg ccggcaccat 480
cccgaccggc ttcggcgggc cagggcgtc cccgacgatg ctggccactg acctctcgct 540
gcgggtggat ccgatctatg agcggatcac gcgtcgtgg ctggaacacc ccgaggaatt 600
ggccgacgag ttcgccaagg cctggtacaa gctgatccac cgagacatgg gtcccgttgc 660

<210> 11
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> PR-F amplification primer

<400> 11
accactgctt tgccgccacc 20

<210> 12
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> PR-R amplification primer

<400> 12
ccgatgagag cggtgagctg 20

<210> 13
<211> 20
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<213> Mycobacterium tuberculosis

<220>
<223> PR-5s sequencing primer

<400> 13
accactgctt tgccgccacc 20

<210> 14
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> PR-3s sequencing primer

<400> 14
ccgatgagag cggtgagctg 20

<210> 15
<211> 420
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> oxyR-ahpC intergenic region (PR)

<400> 15
atgccctggg ggtgcaccga gaccggcttc cgaccaccgc tcgccgcaac gtcgactggc 60
tcatacgag aatgcttgcg gcactgctga accactgctt tgccgccacc gcggcgaacg 120
cgcgaagccc ggccacggcc ggctagcacc tcttgccggc gatgccgata aatatggtgt 180
gatatatcac ctttgctga cagcgacttc acggcacgat ggaatgtcgc aaccaaagtc 240
attgtccgct ttgatgatga ggagagtcat gccactgcta accattggcg atcaattccc 300
cgctaccag ctcaccgctc tcacggcgg tgacctgtcc aaggtcgacg ccaagcagcc 360
cggcgactac ttcaccacta tcaccagtga cgaacaccca ggcaagtggc gggtggtgtt 420

<210> 16
<211> 20
<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-F amplification primer

<400> 16

cctcgctgcc cagaaaggga

20

<210> 17

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-R amplification primer

<400> 17

atcccccggt ttctccggt

20

<210> 18

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-5s sequencing primer

<400> 18

cctcgctgcc cagaaaggga

20

<210> 19

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-3s sequencing primer

<400> 19

atcccccggt ttctccggt

20

<210> 20
<211> 360
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> fabG (isoniazid resistance)

<400> 20
agcgcgacat acctgctgcg caattcgtag ggcgtcaata caccgcagc cagggcctcg 60
ctgcccagaa agggatccgt catggtcgaa gtgtgctgag tcacaccgac aaacgtcacg 120
agcgtaaccc cagtgcgaaa gtcccgcgg gaaatcgag ccacgttacg ctctggaca 180
taccgatttc ggcccggccg cggcgagacg ataggtgtc ggggtgactg ccacagccac 240
tgaaggggcc aaacccccat tcgtatccg ttcagtctg gttaccggag gaaaccgggg 300
gatcgggctg gcgatcgac agcggctggc tgccgacggc cacaaggtgg ccgtcaccca 360

<210> 21
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> s12-F amplification primer

<400> 21
cggtagatgc caaccatcca 20

<210> 22
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> s12-R amplification primer

<400> 22
gcatcagccc ttctccttct 20

<210> 23
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> s12-5s sequencing primer

<400> 23

cggtagatgc caaccatcca

20

<210> 24

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> s12-3s sequencing primer

<400> 24

gcatcagccc ttctccttct

20

<210> 25

<211> 420

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> rpsL/s12 (streptomycin resistance)

<400> 25

cggtagatgc caaccatcca gcagctggtc cgcaagggtc gtcgggacaa gatcagtaag 60
gtcaagaccg cggctctgaa gggcagcccg cagcgtcgtg gtgtatgcac ccgcgtgtac 120
accaccactc cgaagaagcc gaactcggcg ctctggaagg ttgccgcgt gaagttgacg 180
agtcaggtcg aggtcacggc gtacattccc ggcgagggcc acaacctgca ggagcactcg 240
atggtgctgg tgcgcggcgg ccgggtgaag gacctgcctg gtgtgcgcta caagatcatc 300
cgcggttcgc tggatacgca ggggtgcaag aaccgcaaac aggcacgcag ccgttacggc 360
gctaagaagg agaagggtg atgccacgca aggggcccgc gcccaagcgt ccgttggtca 420

<210> 26

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 16S-F amplification primer

<400> 26
ggtgatctgc cctgcacttc g 21

<210> 27
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-R amplification primer

<400> 27
cgtcacccca ccaacaagct g 21

<210> 28
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-5s sequencing primer

<400> 28
ggtgatctgc cctgcacttc g 21

<210> 29
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-3s sequencing primer

<400> 29
cgtcacccca ccaacaagct g 21

<210> 30
<211> 147
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> 16S/rrs (streptomycin resistance)

<400> 30

cgtaggtgat ctgccctgca ctfcgggata agcctgggaa actgggtcta ataccggata 60
ggaccacggg atgcatgtct tgtggtggaa agcgctttag cggtgtggga tgagcccgcg 120
gcctatcagc ttgtggtgg ggtgacg 147

<210> 31

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-F amplification primer

<400> 31

cggcaagctg gcgcaccttc a 21

<210> 32

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-R amplification primer

<400> 32

agccagcaca ctagcccggc g 21

<210> 33

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-5s sequencing primer

<400> 33

cggcaagctg gcgcaccttc a 21

<210> 34
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> embB-3s sequencing primer

<400> 34
agccagcaca ctagcccggc g 21

<210> 35
<211> 300
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> embB (ethambutol resistance)

<400> 35
cggcatgcgc cggctgattc cggcaagctg ggcacattc accctgaccg acgccgtggt 60
gatattcggc ttctgtctt ggcattgcat cggcgcgaat tcgtcggacg acggctacat 120
cctgggcatg gcccgagtcg ccgaccacgc cggctacatg tccaactatt tccgtgggt 180
cggcagcccc gaggatccct tcggctggta ttacaacctg ctggcgctga tgacctatgt 240
cagcgacgcc agtctgtgga tgcgcctgcc agacctggcc gccgggctag tgtctggct 300

<210> 36
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> pncA-F amplification primer

<400> 36
atgcgggcgt tgatcatcgt 20

<210> 37
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> pncA-F amplification primer

<400> 37

tcaggagctg caaaccaact

20

<210> 38

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA-5s sequencing primer

<400> 38

atgcgggcgt tgatcatcgt

20

<210> 39

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA-3s sequencing primer

<400> 39

tcaggagctg caaaccaact

20

<210> 40

<211> 561

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA (pyrazinamide resistance)

<400> 40

atgcgggcgt tgatcatcgt cgacgtgcag aacgacttct gcgagggtgg ctcgctggcg 60
gtaaccggtg gcgccgcgct ggcccgcgcc atcagcgact acctggccga agcggcggac 120
taccatcag tcgtggcaac caaggacttc cacatcgacc cgggtgacca cttctccggc 180
acaccggact attctcgtc gtggccaccg cattgcgtca gcggtactcc cggcgcggac 240
ttccatcca gtcctggacac gtcggcaatc gaggcggtgt tctacaaggg tgcctacacc 300

ggagcgtaca gcggcttcga aggagtcgac gagaacggca cgccactgct gaattggctg 360
 cggcaacgcg gcgtcgatga ggtcgatgtg gtcggtattg ccaccgatca ttgtgtgcgc 420
 cagacggccg aggacgcggt acgcaatggc ttggccacca ggggtgctggt ggacctgaca 480
 gcgggtgtgt cggccgatac caccgtcgcc gcgctggagg agatgcgcac cgccagcgtc 540
 gagtgggtt gcagctcctg a 561

<210> 41
 <211> 20
 <212> DNA
 <213> Mycobacterium tuberculosis

<220>
 <223> gyrA-F amplification primer

<400> 41
 cagctacatc gactatgcga 20

<210> 42
 <211> 20
 <212> DNA
 <213> Mycobacterium tuberculosis

<220>
 <223> gyrA-R amplification primer

<400> 42
 gggcttcggt gtacctcatc 20

<210> 43
 <211> 20
 <212> DNA
 <213> Mycobacterium tuberculosis

<220>
 <223> gyrA-5s sequencing primer

<400> 43
 cagctacatc gactatgcga 20

<210> 44
 <211> 20

<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> gyrA-3s sequencing primer

<400> 44
gggcttcggt gtacccatc 20

<210> 45
<211> 420
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> gyrA (fluoroquinilone/ciprofloxacin resistance)

<400> 45
cgaccggatc gaaccggttg acatcgagca ggagatgcag cgcagctaca tcgactatgc 60
gatgagcgtg atcgtcggcc gcgcgtgcc ggaggtgcgc gacgggctca agcccgtgca 120
tcgccgggtg ctctatgcaa tgttcgattc cggttcgcgc ccggaccgca gccacgcca 180
gtcgcccggtg tcggttgccg agaccatggg caactaccac ccgcacggcg acgcgtcgat 240
ctacgacagc ctggtgcgca tggcccagcc ctggtcgctg cgctaccgcg tggaggacgg 300
ccagggaac ttcggctcgc caggcaatga cccaccggcg gcgatgaggt acaccgaagc 360
ccggctgacc ccgtggcga tggagatgct gagggaaatc gacgaggaga cagtcgattt 420

<210> 46
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 23S-F amplification primer

<400> 46
cgaaattcct tgcgggtaa 20

<210> 47
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> 23S-R amplification primer

<400> 47

gtatttcaac aacgactcca

20

<210> 48

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-5s sequencing primer

<400> 48

cgaaattcct tgcgggtaa

20

<210> 49

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-3s sequencing primer

<400> 49

gtatttcaac aacgactcca

20

<210> 50

<211> 300

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S (macrolide/azithromycin resistance)

<400> 50

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taagttccga cctgcacgaa tggcgtaacg acttcccaac tgtctcaacc atagactcgg 120
cgaaattgca ctacagtaa agatgctcgt tacgcgcggc aggacgaaaa gaccccgga 180
ccttcactac aacttggtat tgggttcgg tacggttgt gtaggatagg tgggagactt 240
tgaagcacag acgccagttt gtgtggagtc gttgttgaat taccactctg atcgattgg 300